Battery Information

Requires 4 each "AAA" alkaline batteries. For best results, all batteries should be changed at the same time and should be the same brand.

Quick Use Instructions

1. To record message: press and release "Start" (switch S2), then press and hold "Record" (switch S3). Speak into microphone (MIC1) using your normal voice level. The indicator (LED1) will light steadily. Release "Record" (switch S3) to stop recording at any time up to the 20 seconds. The indicator (LED1) will begin flashing when "Record" is released or after 20 seconds of recorded time.
2. To play message: when the light is flashing, press and release "Play" (switch S1). The message will play and the light will go out.

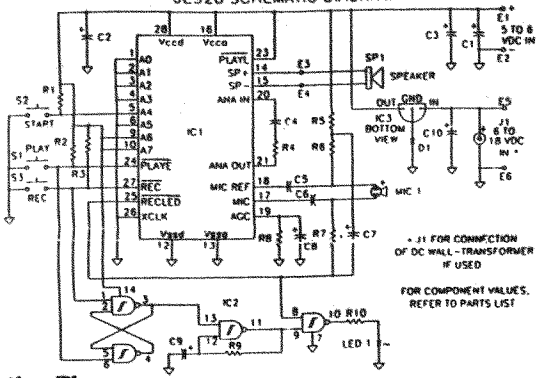
Further Notes

1. A new message will record over a previous one.
2. To check the message after recording it, press "Play" (switch S1). The message will play and the flashing light will go out. To reactivate the light, press "Record" (switch S3).
3. To replay the message, press and release "Start" (switch S2) then "Play" (switch S1).
4. Single or multiple messages can be recorded within the 20 second recording time.

Speaker Sound Enhancements

1. Mount speaker to baffle board or separate baffled enclosure.
2. Place 2.25"Dia. tube over speaker. Vary length of tube as required.

–JE920 SCHEMATIC DIAGRAM–



Trouble Shooting Tips

1. Does not work at all: 1.1 Check all components for proper insertion and soldering. Check for solder bridges around each pad. 1.2 Check for 5.8VDC to 6.2VDC on PC board at pads "E1" and "E2"
2. Assembled kit works for awhile then quits: look for reversed mounting capacitors C1, C2, C3, C7, C8, C9 and C10.
3. LED1 does not flash: 3.1 LED mounted backwards. 3.2 IC2 improperly mounted.
4. Cannot record or playback: 4.1 Microphone improperly mounted (reversed). 4.2 IC1 improperly mounted. 4.3 Check all soldering joints and pads.
5. Speaker works intermittently when placed into 1 3/8" Dia. hole on PC board (component side). 5.1 IC1 socket leads not properly cut. Socket leads touching speaker metal frame. 5.2 Broken speaker wires.

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Warranty: Jameco warrants the equipment to be free from defects for a period of 90 days from date of purchase. If found to be defective, these products will be replaced with a new unit, not repaired. No units will be accepted past the 90 day warranty for repair or replacement. There is no charge for any replacement. Equipment or parts which have been subject to abuse, misuse, accident, alteration, neglect, and/or unauthorized repair are not covered by the warranty. Seller shall have the right to final determination as to existence and cause of defect.

E920KIT (top) JE920KIT (bottom)

scription

› JE920KIT Digital Recorder utilizes the ormation Storage Device", IDS 1420P, single › record/playback for messaging applications. is CMOS device includes an on-chip oscillator, microphone pre-amplifier, automatic gain control, antialiasing filter, smoothing filter and speaker amplifier. The JE920KIT is operated by three switches to handle 20 seconds of a single or multiple messages. The JE920KIT is powered by four 1.5V "AAA" batteries or a 9V wall transformer.

Features

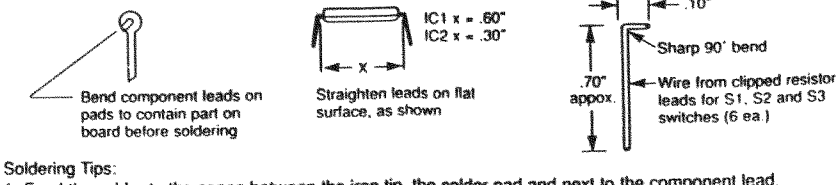
- Easy to use 3 button switches
- Flashing, LED indicator alerts presence of message
- Instant playback – no rewinding of tape
- High quality, natural voice/audio reproduction
- Zero power message storage
- 100 year message retention

C1	93809	Capacitor, radial, 470uf, 16V	
C2, C3, C8, C9, C10	33734	Capacitor, tant, 2.2uf, 35V	5
C4, C5, C6	25523	Capacitor, mono, 0.1uf, 50V	3
C7	93753	Capacitor, radial, 47uf, 25V	1
D1	36038	Diode, 1N4148	1
IC1	107334	IC, IDS1420P, record/playback	1
IC2	13400	IC, CD4093	1
IC3	51182	IC, 78L05, voltage regulator	1
J1	101194	Jack, 1.3mm	1
LED1	94529	Light diode, red	1
MIC1	116505	Microphone cartridge	1
R1, R2, R3	29989	Resistor, 100K ohms, 1/4W, 5% (brown-black-yellow)	3
R4, R6, R7	59820	Resistor, 4.7K ohms, 1/4W, 5% (yellow-violet-red)	3
R5, R10	29655	Resistor, 1K ohms, 1/4W, 5% (brown-black-red)	2
R8, R9	59897	Resistor, 470K ohms, 1/4W, 5% (yellow-violet-yellow)	2
SPK-1	116513	Speaker, round, 2.25" (or equivalent)	1
S1, S2, S3	26622	Switch, mini, mom, n.o.	3
	40301	Socket, IC 28-pin LP	1
	116521	Battery holder, 1.5V x 4 (or equivalent) (Batteries size "AAA", not included)	1
	134341	Conductor, insulated, 22AWG	12"
	108370	Spacer, hex, THD	4
	40969	Screw, 4-40 x 3/8 PH	4
	40977	Lock washer, No. 4	4
	116628	JE920-1 PC board	1
	116716	JE920M kit manual	1

Assembly Preparation and Procedures

1. Important: Identify all parts on parts list before proceeding
2. Tools required:
   - Small soldering iron, 27W to 35W
   - Rosin core solder, .03" Dia. SN60 or SN63. Do not use acid core type or 50/50 solder.
   - Small sponge (water dampened) for cleaning solder tip
   - Small wire cutter/stripper
   - Small long nose pliers
   - Screwdriver
   - DC meter 0 to 18VDC range voltmeter

Component Lead Bending


Bend component leads on pads to contain part on board before soldering
IC1 x = .60"
IC2 x = .30"
X
Straighten leads on flat surface, as shown
.10"
Sharp 90° bend
.70" approx.
Wire from clipped resistor leads for S1, S2 and S3 switches (6 ea.)

Soldering Tips:

1. Feed the solder to the space between the iron tip, the solder pad and next to the component lead.
2. Leaving the iron tip on a pad too long will cause the pad to lift, and will damage the component. Allow approximately 2 seconds per solder joint.
3. Using too much solder can cause the solder to bridge across traces and pads.
4. Keep iron tip clean by frequently wiping the tip across the damp sponge.

JE920KIT Board Assembly Instructions

Read and understand all of the instructions before starting. Note that the JE920KIT has components mounted on the solder side of the board as well as the component side of the board. If the assembly steps are not followed closely, you may encounter a situation where disassembling and desoldering a component may be next to impossible. Desoldering improperly soldered leads can be difficult, as components and board pads may be damaged from heat during removal. Many of the components for the JE920KIT have polarized leads and placement for these leads must be observed.

1. JE920KIT Board Assembly – Component Side (see Fig. 1):

1.1 Insert resistors R1 through R10. Mount flush on board. Be sure that the color coded values are correct for each placement. No need to observe lead polarity. Solder and clip leads **close** to board. Save clipped leads for S1, S2, and S3.

1.2 Insert diode D1. The black band must be up as shown in Fig.1. Mount approx. 1/16" above board. Solder and clip leads.

1.3 Insert capacitors C3, C9, and C10. Observe (+) lead locations. Mount flush. Solder and clip leads.

1.4 Insert capacitor C4. Mount flush. Solder and clip leads.

1.5 Mount IC2. Observe pin 1 ID and notch location. Adjust height so all leads protrude about 1/32" from the bottom of the board. Solder all leads.

1.6 Insert IC3. Observe flat side location on IC3. Mount approx. 1/16" above board. Solder and clip leads.

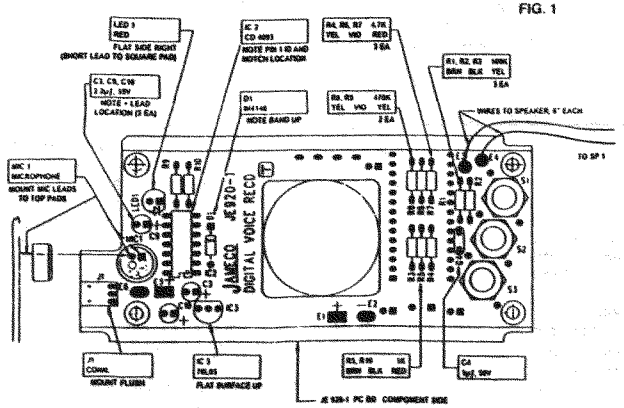
1.7 Insert jack J1 flush on board. Solder and clip leads.

1.8 Insert LED1. Observe flat side of the round body to be on the right side. Mount approx. 1/8" above board. Solder and clip leads.

1.9 Insert microphone MIC1. When placed over the silk-screened circle both leads occupy the top 2 horizontal pads. Push leads into board until they are **flush** on the solder side of the board. Solder leads.

JE 920 BOARD ASSEMBLY – COMPONENT SIDE

FIG. 1



2. Assembly Inspection For Component Side Of Board:

2.1 Carefully inspect each component placement on the board against the assembly picture. As you confirm each item on the assembly drawing place a ✓ on each component shown in Fig. 1.

2.2 Check each solder joint for proper soldering (and unsolder leads) on every pad. Check for any solder bridges across pads and traces. Inspect carefully.

3. JE920KIT Board Assembly – Solder Side (see Fig. 2):

Suggestion: To prevent components LED1 and MIC1 from accidental bending and breaking, temporarily mount the two 1/2" high spacers to the mounting holes next to LED1 and J1 on the component side of the board.

3.1 Insert 28-pin socket. Observe notch location. Mount flush on board. Solder and clip all leads **close** to board. Do not install IC1 yet

3.2 Insert capacitors C2 and C8. Observe (+) lead locations. Mount flush. Solder and clip leads.

3.3 Insert capacitors C5 and C6. Solder and clip leads.

3.4 Insert capacitor C7. Observe (+) lead location. Mount flush. Solder and clip leads.

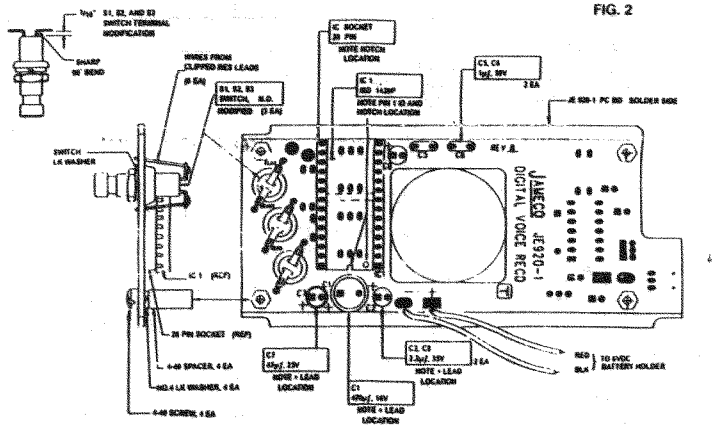
3.5 Insert capacitor C1. Observe (+) lead location. Mount flush. Solder and clip leads.

3.6 Bend switch (S1, S2 and S3) terminals as shown with small long-nose plier. Install switch S1 only. Tighten nut until split washer is flat and at the same time turn switch until terminals are directly over their respective pads (2). Next install S2 using the same procedure, then S3. Place the modified (bent) resistor wire through the switch terminal hole and into its respective pads on the board. The bent part of the wire (end) should be turned towards the center of the switch body as shown. Solder all six wires to the switch terminals. Turn board over and solder all 6 wires to their pads. Take care not to touch the plastic buttons of the switches with the hot soldering iron. Solder and clip leads.

3.7 Install IC1. Observe pin 1 ID and notch location. Inspect each wire for proper insertion into socket.

JE 920 BOARD ASSEMBLY – SOLDER SIDE

FIG. 2


1/16" S1, S2, AND S3 SWITCH TERMINAL MODIFICATION
SHARP 90° BEND
WIRES FROM CLIPPED RES LEADS (6 EA)
S1, S2, S3 SWITCH, N.O. MODIFIED (3 EA)
IC SOCKET 28 PIN NOTE NOTCH LOCATION
IC 1 ISD 1420P NOTE PIN 1 ID AND NOTCH LOCATION
C3, C8 1uf, 50V 2 EA
JE 920-1 PC BD SOLDER SIDE
SWITCH LK WASHER
JAMECO JE920-1
DIGITAL VOICE RECD
IC 1 (RCP)
28 PIN SOCKET (REF)
4-40 SPACER, 4 EA
#4-40 LK WASHER, 4 EA
4-40 SCREW, 4 EA
C7 47uf, 25V NOTE + LEAD LOCATION
C2, C8 3.3uf, 25V 2 EA NOTE + LEAD LOCATION
C1 47uf, 16V NOTE + LEAD LOCATION
RED
BLK
TO 6VDC BATTERY HOLDER

4. Assembly Inspection for Solder Side of Board:

4.1 Use same procedure as outlined in component side assembly inspection (2.1 and 2.2).

5. Install 4 each 1/2" spacers as shown.

6. Speaker wiring: prepare 2 wires appox. 6" each. Strip appox. 3/16" of insulation from each end. Solder each wire to terminal pads "E3" and "E4" as shown. Solder the other end of the two wires to the speaker terminals.

7. Battery holder: strip 1/8" insulation from the wires of the 6V battery holder. Insert conductors to the (+) and (–) pads of the board as shown. Observe color polarity of wires. Solder leads.

8. Check all wiring for the speaker and battery holder.

9. Insert batteries (4 each) into battery holder. Observe battery polarity. Check for 6VDC on PC board with pads "E1" and "E2".

9.1 Note: optional 9VDC wall transformer may be used to plug into the jack J1 on the JE920 board. A special voltage regulator on the board converts the 9VDC into 5.8VDC. The 9VDC wall transformer may be used in lieu of or in addition to the JE920's batteries. Although the optional transformer is not a charger per se, the batteries "float" on the transformer's voltage and so their life may be extended somewhat when the wall transformer is used. When used with the wall transformer, as an option, the batteries may be removed.